National Aeronautics and Space Administration

NASA's Impact in Georgia: A Tech Transfer Perspective

You know that NASA studies our planet, our sun, the solar system, and the Universe. But did you know about the space program's economic impact here on Earth?

In 2011, NASA invested over **$16 million** in the state of Georgia.

Since 2001, NASA's SBIR/STTR Program has invested over
$4 million in **14 Georgia companies**
and more than **$1.2 billion** nationwide.

How NASA's SBIR/STTR Program Benefits Georgia

NASA is committed to moving technologies and innovations into the mainstream of the U.S. economy, and the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program helps fulfill this goal.

SBIR/STTR stimulates technological innovation by encouraging small, high-tech companies—particularly minority and disadvantaged businesses—to partner with NASA to help meet its research and development needs in key technology areas. At the same time, this program strengthens small companies by enabling them to bring cutting-edge new products into the U.S. economy.

The list to the right highlights Georgia businesses that received SBIR/STTR contracts from NASA since 2001. **(Visit http://sbir.nasa.gov for more information on the SBIR/STTR program.)**

NASA SBIR/STTR Companies in Georgia

Aerotonomy, Inc.	Lithia Springs
Applied Systems Intelligence, Inc.	Alpharetta
Earth Mapping International	Lawrenceville
Genziko, Inc.	Alpharetta
Global Technology Connection, Inc.	Atlanta
Intech Software Solutions, Inc.	Norcross
InterCAX, LLC	Atlanta
MicroCoating Technologies	Chamblee
NDP Optronics, LLC	Mableton
Numerical Technology Company, LLC	Roswell
Radatec, Inc.	Mableton
SA Technologies	Marietta
SpaceWorks Engineering	Atlanta
Wang Electro-Opto Corporation	Marietta

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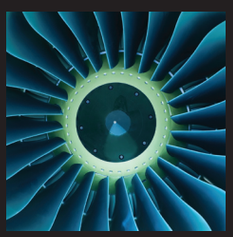
How NASA Spinoffs Benefit Georgia

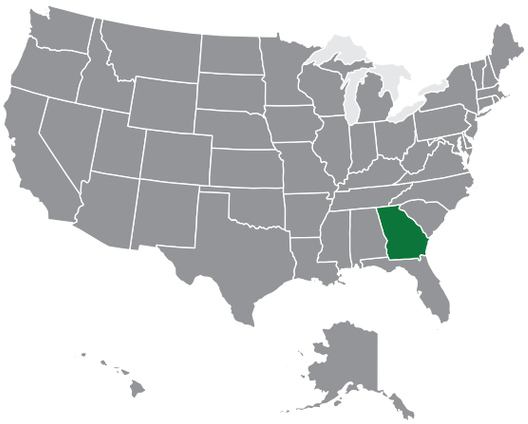
Uses for Space-Age Water Purifier Extend from Pools to HVAC Systems *(Cornelia)*
In the 1960s, NASA developed a small, lightweight water purifier for Apollo spacecraft. The chlorine-free treatment system dispensed silver ions into the water supply to kill off bacteria. Carefree Clearwater, Ltd. now manufactures a modified version of NASA's system for numerous commercial and industrial applications. The automated system electronically releases copper and silver ions to purify, sanitize, and eliminate bacteria and algae in thousands of swimming pools, spas, hot tubs, and fountains. Unlike chlorine, the ions do not dissipate from heat and sunlight, so they provide a stable sanitizer residual. In addition to recreational uses, the system is well-suited for cooling towers and for heating, venting, and air conditioning systems.

NASA-Derived Device Destroys Bacteria, Increases Shelf Life of Perishable Foods *(Kennesaw)*
NASA research aimed at building greenhouses in space led to a device that increases the shelf life of perishable foods here on Earth. Researchers at one of NASA's former Commercial Space Centers developed an ethylene scrubber for use in plant growth chambers on the International Space Station and the space shuttle. Ethylene is a natural hormone produced by plants that causes spoilage and premature withering if present in excess amounts. KES Science & Technology, Inc. licensed and adapted the technology for use in food storage areas and in floral and produce display cases. The system uses photocatalytic oxidation and ultraviolet light to remove ethylene gas and destroy airborne molds and bacteria, increasing the shelf life of perishable foods and flowers by more than a week.

Collaboration Enables Shockwave Technology Used in Hydro Pumps *(Rome)*
A NASA collaboration enabled Hydro Dynamics, Inc. to troubleshoot a problem it was having with the rotors in its signature pump device. NASA engineers analyzed the problem and recommended changing to bearings, housings, and mounting hardware that could withstand the stress of the high heat generated by the rotors. The resulting pump heats liquids with greater energy efficiency by using shock waves to generate heat, rather than electric heating elements or fossil fuels. The technology also reduces the formation of impurities within the device, reducing maintenance costs and increasing product life. Hydro Dynamics now makes pumps for diverse markets including biofuel production, chemical manufacturing, refinery services, and food processing.



Innovative Sensors Assess Health of Machines in Hostile Environments *(Atlanta)*
SBIR program funds enabled Radatec, Inc. (now part of Meggitt Sensing Systems, a subsidiary of Meggitt PLC) to develop its non-contact microwave sensor technology. Used initially to monitor the health of gas and steam turbines in aircraft and in power plants, the technology can warn of impending problems before they become dangerous. The combination hardware/software system allows operators to collect data in hostile environments where conventional sensor technology cannot operate and to obtain data while machines are in full-speed operation, eliminating system downtime for routine inspections. The technology is now used to monitor complex heavy machinery operating in extreme environments of aircraft, space vehicles, power generators, test laboratories, and in nuclear, oil, and gas installations.



NASA actively seeks partnerships with U.S. companies that can license NASA innovations and create "spinoffs" in areas such as health and medicine, consumer goods, transportation, renewable energy, and manufacturing. When businesses leverage NASA technologies to develop new products, it not only benefits the regional economy, but significantly strengthens the nation's competitiveness in the global marketplace.

NASA's centers across the country have helped 54 Georgia companies develop revolutionary spinoff technologies.

Learn more about how NASA innovations benefit the public in *Spinoff*, an annual publication that highlights NASA's most significant technology transfer successes.
(Available at: http://www.sti.nasa.gov/tto)

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